

5(3)

PHASE I BOOK EXPLOITATION

SOV/1648

Nemkova, O.G., Ye. I. Burova (Deceased), O.I. Vorob'yeva, Ye.A. Ippolitova, and A.V. Lapitskiy.

Rukovodstvo k prakticheskim zanyatiyam po neorganicheskoy khimii
(Handbook for Laboratory Work in Inorganic Chemistry) [Moscow]
Izd-vo Mosk. univ., 1959. 299 p. 15,000 copies printed.

Ed. (Title page): V.I. Spitsyn, Academician; Ed. (Inside book):
S.F. Kondrashkova; Tech. Ed.: L.V. Lazareva.

PURPOSE: This handbook is intended for beginning students in chemistry departments of state universities.

COVERAGE: The book consisting of 35 chapters deals with the most important aspects of general and inorganic chemistry. The authors attempt to cover the properties of elements and their compounds as well as the synthesis of various inorganic compounds. The handbook should inculcate in students the habit of assembling and using modern laboratory equipment. Second semester students are expected

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Handbook for Laboratory Work in Inorganic Chemistry

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to synthesize metal compounds and to study their properties. Since little theory is presented in this handbook, the students are expected to do independent work with chemical literature. The handbook is based on the long experience of the following professors and docents of the Moscow State University: E.F. Krause, Ye. F. Den'gin, V.S. Zaykov and A.D. Funk. There are no references.

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Ch. I. Organization of Laboratory Work and Techniques of Experimentation	5
Ch. II. Methods of Purifying Substances	26
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KNYAGININA, V.G.; NEMKOVA, O.G.

Compounds of low solubility formed between uranium and lower
phosphorus acids. Radiokhimiia 1 no.6:665-667 '59.
(MIRA 13:4)
(Uranium compounds) (Phosphorus acids)

S/081/52/000/010/020/065
B138/B101

AUTHORS: Spitsyn, Vikt. I., Murav'yeva, I. A., Nemkova, D. G.,
Gulia, V. G.

TITLE: Uranyl phosphates

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1962, 93, abstract 10V18
(Sb. "Issled. v obl. khimii urana". M., Mosk. un-t, 1961,
233 - 239)

TEXT: In the interaction between 0.001 M and less concentrated acid so-
lutions (pH=2.4) of $\text{UO}_2(\text{NO}_3)_2$ and a solution of Na phosphate,
 $(\text{UO}_2)_3(\text{PO}_4)_2 \cdot 3\text{H}_2\text{O}$ was obtained. [Abstracter's note: Complete transla-
tion.]

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S/061/62/000/010/021/035
B138/E101

AUTHORS: Murav'yeva, I. A., Nemkova, O. G., Cherkusova, R. P.,
Orlova, A. S.

TITLE: Binary uranyl phosphates

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1962, 93, abstract 10V19
(Sb. "Issled. v obl. khimii urana". M., Mosk. un-t, 1961,
240 - 247)

TEXT: NaUO_2PO_4 is precipitated from acid solutions of uranyl salts by
using a NaH_2PO_4 solution at a concentration of > 0.005 M. NaUO_2PO_4 can
be precipitated from solutions of uranyl salts in the presence of Ca, Sr
and Ba salts, but it cannot be precipitated in the presence of Cu salts.
[Abstracter's note: Complete translation.]

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S/656/61/000/000/003/007
D244/D304

AUTHORS: Gulia, V.G., Nemkova, O.G., Byelomestnykh, V.I., and
Dukhovich, F.S.

TITLE: Investigating the composition of precipitated urano-
vanadates

SOURCE: Spitsyn, V.I., ed. Issledovaniya v oblasti khimii
urana, sbornik statey (Moscow) 1961, 262 - 270

TEXT: The authors investigated the process of interaction between
solutions of uranyl nitrate and ammonium, sodium and potassium me-
tavanadates with the aid of potentiometric conductometric and che-
mical analysis. The introduction of the first 0.4 - 0.5 g atom of
vanadium to 1 g atom of uranium caused the formation of a yellow
precipitate, the amount of which increased with further addition of
the vanadate. When the solutions were mixed in the reverse order,
the first drop of uranyl nitrate caused the precipitation. It was
shown that the inflections in the potentiometric and conductometric
titration curves correspond to the precipitation of vanadates. The
ratio of U to V in the precipitates is 1 : 3 and 1 : 4 for a) addi-
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tion of uranyl nitrate to vanadate and b) vanadate to uranyl nitrate. The separation of the two types of the precipitates was found to be difficult in view of their colloidal nature. Moreover, it was observed that the mother-liquor in contact with the precipitates increased its pH from 4.7 to ca. 5.3, in 20 days. The increase was due to changes in the composition of the precipitated uranovanadates. This effect was studied for the precipitate obtained from NH_4VO_3 and $\text{UO}_2(\text{NO}_3)_2$. The precipitates were separated in a centrifuge (6000 rpm.) and analyzed after different times of standing in contact with the mother liquor. Uranium was separated from vanadium on a cation exchange resin KV-2. Uranium was then determined by a vanadometric method with the use of NH_4VO_3 and phenyl anthranilic acid as the indicator. Vanadium was determined by permanganate titration after previous reduction with gaseous H_2S . The results show that the composition of the precipitates, separated from the solutions after they have reached a constant pH, does not depend on the order in which the reagents are mixed. The ratio of U to V in such precipitates is 1 : 2 and its formula $(\text{NH}_4)_2 \cdot \text{UO}_3 \cdot \text{V}_2\text{O}_5 \cdot 5\text{H}_2\text{O}$. If Na or K vanadate is used, the composition is $\text{Me}_2\text{O} \cdot 2\text{UO}_3 \cdot \text{V}_2\text{O}_5 \cdot 5\text{H}_2\text{O}$.

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where Me = Na or K. The authors demonstrated that the composition of freshly precipitated uranovanadates depends on the initial concentration of vanadium in solutions. This was carried out by titrating 10 ml of uranyl nitrate solutions (pH = 3.00) with ammonium metavanadate solutions (pH = 7.00) of different concentration. The ratio of U to V in the fresh precipitates falls with the decreasing concentration of the metavanadate in solution. However, for the equilibrated precipitates, (i.e. those left in contact with their mother-liquors) there is no dependence on the concentration and the ratio is always about 1 : 2. The authors investigated also the effect of changing pH of the original solutions from 1.00 to 10.00. The results show that NH_3 is present in the uranovanadates separated from the solutions having pH values of 3.00, 7.18 and 10.00. The composition of uranovanadates changes from polyvanadates to orthovanadates as the medium changes from acid to alkaline. It is also possible that a mixture of uranovanadates and ammonium uranates is precipitated from alkaline solution. There are 6 figures, 6 tables and 15 references: 7 Soviet-bloc and 8 non-Soviet-bloc. The references to the English-language publications read as follows:

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Investigating the composition of ...

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H. Britton and G. Welford, J. Chem. Soc., 1 - 6, 764, 1940, F. Hess
Eng. Min. Journal, 114, 272, 1922.

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S/656/61/000/000/004/007
D244/D304

AUTHORS: Gulia, V.G., and Nemkova, O.G.

TITLE: Precipitation of uranovanadates in the presence of salts of some metals

SOURCE: Spitsyn, V.I., ed. Issledovaniya v oblasti khimii urana; sbornik statey (Moscow) 1961, 271 - 277

TEXT: The authors investigated the precipitation of uranium by solutions of metavanadates in the presence of NaCl, RbCl, CsCl, NH₄Cl, CaCl₂ and Cu(NO₃)₂. The freshly precipitated uranovanadates form colloidal solutions, but dense, easily filterable precipitates are produced in the presence of the metal salts. The precipitation of Na₂O·2UO₃·3V₂O₅ was carried out by adding a solution of NaVO₃ to a solution of uranyl nitrate in 0.1 N NH₄Cl. CaO·UO₃·3V₂O₅ was precipitated by the solution of Ca(VO₃)₂ from solution of UO₂(NO₃)₂ in 0.1 N CaCl₂. The concentration of UO₂(NO₃)₂ was 0.0386 N and those of the soluble vanadates - 0.04 N. The quantities of the solutions

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added to each other were chosen so as to obtain uranovanadates with U to V ratio of 1 : 3. The analysis of the uranovanadates precipitated under such conditions indicated the presence of NH_3 , Na and Ca as cations in addition to uranium. With the aid of a potentiometric titration it was established that for the reaction of $\text{UO}_2(\text{NO}_3)_2$ with NH_4VO_3 in the presence of RbCl and CsCl solutions, the uranovanadates have ratios of U to V of 1 : 3 respectively, but in the presence of CaCl_2 and CuCl_2 the ratio is 1 : 4. The use of isotopes ^{86}Rb and ^{137}Cs in the form of chlorides demonstrated that there is no formation of rubidium and cesium uranovanadates. From this it follows that RbCl and CsCl do not affect the composition of the uranovanadates precipitated with NH_4VO_3 . The final product of reaction between $\text{UO}_2(\text{NO}_3)_2$ and NH_4VO_3 in the presence of CaCl_2 is a calcium uranovanadate with a ratio of Ca : U : V of 1 : 1 : 6 respectively. The composition of the precipitate is given as $\text{CaO} \cdot \text{VO}_3 \cdot 0.5 \text{V}_2\text{O}_5 \cdot \text{aq}$. The reaction in the presence of CuCl_2 (pH 4.30 - 4.70) gives a compound with Cu : U : V ratio equal to 0.95 : 1 : 1.88 corresponding

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to $\text{CaO} : \text{UO}_3 : \text{V}_2\text{O}_5$ aq. To ascertain the degree of removal of uranium from solution by the formation of uranovanadates, U was determined in the mother liquors after the precipitation. It was found that the best precipitant was NH_4VO_3 reacting in the presence of CaCl_2 . The authors also investigated the behavior of the isolated uranovanadates in aqueous solutions. The results show that the ratio of U to V in $(\text{NH}_4)_2\text{O} \cdot 0.4\text{UO}_3 \cdot 3\text{V}_2\text{O}_5$ does not change when it is mixed with water, whilst $\text{CaO} \cdot \text{UO}_3 \cdot 3\text{V}_2\text{O}_5$ (U : V = 1:3) changes into a compound with U : V ratio of 1:2 with an accompanying change of pH from 7.0 to 9.1. The examination of solubilities of the uranovanadates in 0.1 N solutions of the metal salts revealed that the least soluble precipitate is $\text{CaO} \cdot \text{UO}_3 \cdot 3\text{V}_2\text{O}_5$ (0.0015 g/l). An increase in concentration of the metal salts lowers considerably the solubility of the uranovanadates and, consequently, slows down their hydrolysis. There are 2 figures and 6 tables.

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AUTHORS: Gulia, V.G., Nemkova, O.G., and Dukhovich, F.S.
TITLE: Study of the interaction of ammonium uranovanadate
with vanadium pentoxide
SOURCE: Spitsyn, V.I., ed. Issledovaniya v oblasti khimii
urana; sbornik statey (Moscow) 1961, 278 - 280

TEXT: The authors investigated the possibility of obtaining condensed uranyl vanadates by reacting uranyl vanadates (with a small ratio of V to U) with V_2O_5 . A given uranovanadate was weighed into a closed vessel equipped with an electric stirrer. A quantity of water and V_2O_5 was added giving the required ratio of U to V in the product. All experiments were conducted at a constant temperature of 24°C ($\pm 0.1^\circ$). Ammonium uranovanadate used in the reaction was obtained at pH 5.93 and had the following composition: UO_3 - 56.64 %, V_2O_5 - 28.89 %, $(NH_4)_2O$ - 3.62 % and H_2O - 10.84 %. In one series of experiments the amounts of uranovanadate and V_2O_5 taken were
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Study of the interaction of ...

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such as to give the ratio of U : V in the mixture of 1 : 2 respectively. In the second series it was desired to obtain $(\text{NH}_4)_2\text{O} \cdot 3\text{UO}_3 \cdot 2\text{V}_2\text{O}_5 \cdot 8\text{H}_2\text{O}$ with the U : V ratio of 1 : 3 respectively. For 30 days after initiation of an experiment small samples of the reaction mixture were taken every 5 days. The samples were analyzed by X-ray for V_2O_5 content, with an accuracy of 5 %. V_2O_5 gave good rentgenograms and clear electronograms, whilst the uranovanadates were amorphous and did not give clear lines. This difference was utilized in the present work to determine the completeness of the interaction. The results show that uranovanadates react completely with V_2O_5 in an aqueous medium. The reaction products are uranovanadates with U : V ratios equal to 1 : 2 and 1 : 3 respectively. This conclusion is confirmed by electron diffraction and chemical analyses. The authors believe that the interaction between uranovanadates and V_2O_5 takes place in solution and not in the solid phase. There are 2 figures and 2 tables.

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S/656/61/000/000/006/007
D244/D304

AUTHORS: Muromskiy, Yu.P., Simanov, Yu.P., and Nemkova, O.G.

TITLE: Investigating the interaction of uranium and uranyl phosphates with calcium oxide at high temperatures

SOURCE: Spitsyn, V.I., ed. Issledovaniya v oblasti khimii urana; sbornik statey (Moscow) 1961, 281 - 291

TEXT: To investigate the possibility of the interaction of $U_3(PO_4)_4$ and $(UO_2)_3(PO_4)_2$ with CaO at high temperatures the authors studied the following processes: $U_3(PO_4)_4 + 6CaO \rightarrow 3UO_2 + 2Ca_3(PO_4)_2$ Eq. (1) in inert atmospheres; $(UO_2)_3(PO_4)_2 + 3CaO \rightarrow U_3O_8 + Ca_3(PO_4)_2 + 1/2 O_2$ (Eq. 2) and $(UO_2)_3(PO_4)_2 + 6CaO \rightarrow 3CaUO_4 + Ca_3(PO_4)_2$ (Eq. 3) in oxidizing atmospheres. The main method of analysis employed in this work was X-ray tube of the ECB (BSV) type with a copper anode (without filter). The reaction between $U_3(PO_4)_4$ and CaO was carried out by mixing the compounds in the ratio of 1 : 6 respectively.
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vely. The experiments were conducted in nitrogen, the temperature being increased in steps of 100°C between 400° and 1000°C with heating for 4 hours. The X-ray analysis demonstrated that the interaction of $\text{U}_3(\text{PO}_4)_4$ with CaO begins between 400 and 500°C . The reaction products are UO_2 and $\text{Ca}_3(\text{PO}_4)_2$. The reaction proceeds as in Eq. 1. To determine the influence of temperature on the percentage conversion of uranium phosphate into UO_2 the author conducted chemical analysis of the reaction products obtained at 500° and 1000°C . CaO and $\text{Ca}_3(\text{PO}_4)_2$ were dissolved in HCl , $\text{U}_3(\text{PO}_4)_4$ dissolved in H_3PO_4 and the remaining UO_2 in HNO_3 and then precipitated with NH_3 and weighed as U_3O_8 . The results of the chemical analysis also confirm the correctness of Eq. 1. Reaction (2) was carried out by mixing 1 part of $(\text{UO}_2)_3(\text{PO}_4)_2$ and 3 parts of CaO and heating in the atmosphere of purified air between 300° and 1000°C in steps of 100° . In each case the heating was continued for 4 hours. The chemical and X-ray analyses indicate that the products of the reaction were ...
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initially $\text{Ca}_3(\text{PO}_4)_2$ and UO_3 . The latter was transformed above 600°C into U_3O_8 . The reaction begins between 300° and 450°C . To confirm the formation of UO_3 between 400° and 1000°C , 1 part of $(\text{UO}_2)_3\text{PO}_4$ and 3 parts of CaO were heated for 6 hours between 400° and 1000°C in steps of 100° . Analysis of the products indicated that the reaction proceeds according to Eq. 3 with the formation of CaUO_4 . Interaction of uranium oxides and calcium phosphates was also investigated in order to demonstrate the irreversibility of the reactions studied. Results of X-ray and chemical analysis indicated that the reactions (1) and (2) are irreversible between 400° and 1000°C . The authors conclude that at high temperatures it is possible to isolate uranium oxides or to obtain CaUO_4 from $(\text{UO}_2)_3(\text{PO}_4)_2$ and $\text{U}_3(\text{PO}_4)_4$ in oxidizing atmospheres. The authors believe that these results could be utilized in technological refining of uranium phosphate minerals. There are 6 figures, 8 tables and 6 references: 2 Soviet-bloc and 4 non-Soviet-bloc. The reference to the English-language publication reads as follows: J. Schrayner and C. Boes, J. Amer. Chem. Soc., 76, 354, 1954.

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S/656/61/000/000/007/007
D244/D304

AUTHORS: Khlebnikov, G.I., Simanov, Yu.P., and Nemkova, O.G.

TITLE: Investigating the solid phase reactions between CaO , V_2O_5 and U_3O_8

SOURCE: Spitsyn, V.I., ed. Issledovaniya v oblasti khimii urana; sbornik statey (Moscow) 1961. 292 - 301

TEXT: The authors investigated solid phase reactions between U_3O_8 and CaO , U_3O_8 and V_2O_5 and $\text{Ca}(\text{VO}_3)_2$ and U_3O_8 . Thermal, X-ray and crystallographic analyses were the main methods used in this work. The thermal analysis was conducted by registering the cooling and heating curves (directly and differentially) on a recording ПМ-52 (PK-52) pyrometer of N.S. Kurnakov with the attached low-resistance potentiometer ППНН-1 (PPTN-1). X-ray analysis was carried out with the use of X-ray tube of the ECB (BSV) type with a copper anode. The polarizing microscope ММ-5 (MIN-5) was used for the crystallographic analysis. One part of CaCO_3 and two parts of V_2O_5 were

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taken for studying the interaction between CaO and V_2O_5 . Thermal analysis of this mixture indicated that between 595° and 603°C $\text{Ca}(\text{VO}_3)_2$ is formed, which forms a eutectic mixture with V_2O_5 melting at 618°C . The formation of $\text{Ca}(\text{VO}_3)_2$ is confirmed by the X-ray and crystallographic analyses. The same result was obtained by heating 1 : 1 mixture of CaCO_3 and V_2O_5 . Heating of the 2 : 1 mixture gave the formation of $\text{Ca}(\text{VO}_3)_2$ at 611°C and also $\text{Ca}_2\text{V}_2\text{O}_7$ at 688°C , which melts at $972 - 973^\circ\text{C}$. The interaction of U_3O_8 with $\text{Ca}(\text{VO}_3)_2$ and $\text{Ca}_2\text{V}_2\text{O}_7$ was studied in a current of air. $\text{Ca}(\text{VO}_3)_2$ and U_3O_8 investigated were mixed in the ratio of 3 : 2 and 3 : 1 respectively (mixture I and III). Also 3 parts of CaV_2O_5 were heated with 1 part of U_3O_8 (mixture II). The heating was continued up to 1100°C . The results obtained indicate that a complex compound is formed from $\text{Ca}(\text{VO}_3)_2$ and U_3O_8 having composition III. The authors postulate

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that the formula of the compound is $\text{CaUO}_2 \cdot \text{V}_2\text{O}_7$. The heating of mixture II gives a reaction at $850 - 863^\circ\text{C}$ corresponding to the formation of new compounds different from the reactants and also CaUO_4 , V_2O_5 and $\text{CaUO}_2\text{V}_2\text{O}_7$. On the basis of the results obtained the authors conclude that at temperatures up to 1100°C CaV_2O_7 does not react with V_2O_5 and, also, that CaV_2O_7 forms with U_3O_8 in air $\text{CaUO}_2\text{V}_2\text{O}_7$ which does not react with excess of U_3O_8 . The authors give for the first time interplanar distances for the crystalline lattices of $\text{Ca}(\text{VO}_3)_2$, $\text{Ca}_2\text{V}_2\text{O}_7$ and $\text{CaUO}_2\text{V}_2\text{O}_7$. There are 7 figures, 6 tables, and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The reference to the English-language publication reads as follows: J. Mellor, A compr. treat. on inorg. and theor. chem., 9, 12, 1933.

Card 3/3

S/078/62/007/001/002/005
B127/B110

AUTHORS: Gulia, V. G., Nemkova, O. G., Deykalov, V. K.

TITLE: Precipitated lanthanum vanadates

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 1, 1962, 84-87

TEXT: Composition and properties of precipitated lanthanum vanadates were investigated. Finely dispersed precipitates, the color of which depends on the pH, are formed by the reaction of a lanthanum salt solution with an ammonium vanadate solution. A dark-red precipitate, insoluble in 40 % acetic acid, but soluble in dilute mineral acids, develops at pH = 1-2. From solutions < 0.05 N, no precipitate forms any more, the solutions turn dark raspberry-red, and the color disappears during dilution. At pH = 6.2, a yellow precipitate is separated (La : V = 3 : 2), which, when kept in mother liquor, is turned into crystals of vivid orange-red color (La : V = 1 : 2) after 3 - 4 days. The pH of the mother liquor is reduced; during the first 24 hr it drops from 2.9 to 3.2 and reaches 4.09 after four days. The results of potentiometric titration (valve potentiometer ЛП-5 (LP-5))

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Precipitated lanthanum vanadates

agreed with those of conductometric titration. The composition of the precipitate proved to depend on the manner of pouring together: When pouring ammonium metavanadate into lanthanum nitrate, the ratio of La : V is 1 : 1 in the resulting precipitate; when pouring lanthanum nitrate into ammonium metavanadate, the La : V ratio is 1 : 3. This is illustrated by the reaction equations $\text{La}(\text{NO}_3)_3 + \text{NH}_4\text{VO}_3 + \text{H}_2\text{O} = \text{LaVO}_4 + \text{NH}_4\text{NO}_3 + 2\text{HNO}_3$, $2\text{LaVO}_4 + 3\text{HNO}_3 = \text{LaHV}_2\text{O}_7 + \text{H}_2\text{O} + \text{La}(\text{NO}_3)_3$, $\text{La}(\text{NO}_3)_3 + 3\text{NH}_4\text{VO}_3 = \text{La}(\text{VO}_3)_3$ and 5 non-Soviet references. The three references to English-language publications read as follows: W. O. Milligan, L. M. Watt, H. H. Racnford J. Phys. and Colloid Chem., 53, 227 (1949), A. Wold, R. Ward. J. Chem. Soc. 76, 1029 (1954), H. T. S. Britton, G. Welford, J. Chem. Soc., 1-6, 761 (1940).

SUBMITTED:

December 26, 1960

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37168

S/078/62/007/005/006/014
B101/B110

15.2240
AUTHORS:

Fedoseyev, I. V., Nemkova, G. G.

TITLE: Oxidation of titanium nitride in dry and moist air

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 5, 1962, 980 - 982

TEXT: Titanium nitride was synthesized by 15 hr heating of Ti powder in N_2 stream at 1100-1200°C. No absolutely oxygen-free N_2 was obtained by the usual methods, and the titanium nitride contained oxides owing to the long reaction time. N_2 completely free from C_2 was obtained by conducting N_2 over titanium nitride which bound the O_2 traces. The resulting fine-crystalline powder had a specific surface of 1500 cm^2/g . The oxidation of titanium nitride was checked by periodic weighing while the sample was not removed from the reaction zone. The experiments in dry air were made at 600-750°C, since at 850°C oxidation occurred within 10 min. The oxidation curves showed two sections: (1) a linear part corresponding to direct

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Oxidation of titanium nitride...

oxidation of titanium nitride: $q = K_1 t$ (q = increase in weight per unit surface); (2) a part in which further oxidation occurs only by diffusion of O_2 through the oxide layer formed: $q^2 = K_2 t$. The authors found for $10^{-6} K_1$, g/cm²·min: at 600°C, 0.125; at 675°C, 0.96; at 750°C, 5.36; for $10^{-10} K_2$ (g/cm²·min)²: at 675°C, 1.00; at 750°C, 5.70. The functions $\log K_1 = f(1/T)$ and $\log K_2 = f(1/T)$ are linear. The activation energy was calculated: $E_1 = 44.9$, $E_2 = 54.60$ kcal/mole. The oxidation curves remained unchanged on oxidation in air with 6% by volume water vapor. Oxidation of titanium nitride in water vapor at 700°C yielded a completely different oxidation curve; a process different from that for oxidation in air is therefore assumed. There are 4 figures and 2 tables.

SUBMITTED: June 1, 1961

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MURAV'YEVA, I.A.; ZABORENKO, K.B.; NEMKOVA, O.G.; KHAN DE PIN

Determination of the solubility of precipitated alkali
metal uranyl phosphates by the tracer method. Radiokhimiia
6 no. 1:124-127 '64.
(MIRA 17:6)

1. The first of the two main parts of the document is a

description of the situation in the country in 1983. The

second part of the document is a description of the

NEMKOVA, Ol'ga Georgiyevna; BURKOVA, Yekaterina Ivanovna;
VOROB'YEVA, Ol'ga Ivanovna; IPPOLITOVA, Yekaterina
Aleksandrovna; LAPITSKIY, Anatoliy Vasil'yevich;
KOROBTSOVA, N.A., red.; SPITSYNA, V.I., akademik, red.

[Laboratory work in inorganic chemistry] Praktikum po
neorganicheskoi khimii. Moskva, Izd-vo Mosk. univ.,
1965. 317 p.
(MIRA 18:8)

LITVINENKO, A.U.; NEMKOVA, V.K.

Study of vegetable remains from Cimmerian Stage deposits. Dokl.
AN SSSR 107 no.2:317-320 Mr '56. (MLRA 9:7)

1.Dnepropetrovskiy nauchno-issledovatel'skiy institut geologii.
Predstavlena akademikom N.M.Strakhevyu.
(Georgia--Paleobotany)

NEMKOVA, V.K.

Spore and pollen of Kinel' sediments; material on the lignite
deposit in Orenburg Province. Vop. geol. vost. okr. Rus. platf.
1 Izv. Urala no. 5:33-40 '60. (MIRA 14:5)
(Orenburg Province—Palynology)

NEMKOVA, V.K.

Kinel' flora of the lower part of the Ufa River. Vop. geol. vost.
okr. Rus. platf. i Iuzh. Urala no. 5:41-46 '60. (MIRA 14:5)
(Ufa Valley--Paleobotany, Stratigraphic)

NEMKOVA, V.N., inzh.

History of the construction of the Proletarskii Plant (formerly
St. Petersburg Aleksandrovskii Iron Foundry). Mat. po ist.
stroi. tekhn. no. 206-218 '61. (MIRA 14:12)
(Iron-founding)
(Leningrad--Construction industry)

NEMKOVA, V.N., inzh.

History of the construction of the Kirov (formerly Putilov) Plant
in the second half of the 19th and beginning of the 20th century.
Mat. po ist. stroi. tekhn. no.2:145-180 '62. (MIRA 16:5)
(Leningrad--Machinery industry)

NEMKOVA, V.Ye., aspirant

Develop a system for the automatic control of ballast
compactness. Put' i put. khoz. 9 no.12:5-8 '65.

(MIRA 19:1)

ACCESSION NR: AP4040681

S/0072/64/000/006/0005/0008

AUTHOR: Kitaygorodskiy, I. I.; Bobkova, N. M.; Nemkovich, I. K.

TITLE: Electric properties of alumo-boro-silicate glasses

SOURCE: Steklo i keramika, no. 6, 1964, 5-8

TOPIC TAGS: alumo boro silicate glass, glass electro resistivity, glass dielectric constant, glass dielectric loss, electric property

ABSTRACT: The work was prompted by the scarcity of data concerning the electric properties of alumo-boro-silicate glasses, despite the fact that they attract growing interest because of their high electro insulating properties. The authors investigated glasses of the following compositions (wt%) 62.4 SiO₂, 8 B₂O₃, 8 Al₂O₃, 20 RO, 1.6 K₂O and 64 SiO₂, 8 B₂O₃, 8 Al₂O₃, 20 RO, where R = MgO, CaO, SrO, BaO and PbO. The influence of chemical composition, field frequency and temperature on electric properties: (dielectric constant, resistivity and dielectric losses) was investigated, for all glass types electric resistivity ρ expressed as $\log \rho - 1/T$ is linear (T=temp). Cation mobility determines the electroconductivity of glass (the Pb cation being an exception because of lead glass

Card 1/2

ACCESSION NR: AP4040681

lower viscosity at high temperatures). Dielectric losses, $\tan \delta$, were studied in the range from 10^5 to $3 \cdot 10^9$ cycles. It was found that losses are at their lowest point at medium frequencies: $10^6 - 10^7$ cycles. The losses of lead glass are similar to those of barium glass. An increase of the loss angle is observed at temperatures rising from 20 to 300°C. Dielectric constant ϵ of low alkalinity glasses increases with the introduction of one divalent oxide instead of another - in proportion to the increasing radius of the cation. With increasing field frequency, dielectric constant rapidly decreases when frequency exceeds 10^7 . It increases with temperature due to shorter relaxation time. Orig. art. has: 5 figures.

ASSOCIATION: None

SUBMITTED: 00

ENCL:

SUB CODE: .MT

NR REF SOV: 005

OTHER: 001

Card 2/2

L 55864-65

EWI(a)/EWI(m)/EWI(i)/EWI(b) Pg-4 WH
ACCESSION NR: AR5014917

UR/0081/65/000/008/8073/8073

SOURCE: Ref. zh. Khimiya, Abs. 88481

AUTHOR: Yermolenko, N. N.; Nenkavich, M. S.

TITLE: Synthesis of alkali-free glasses in the system silica-zirconia - CaO - MgO

CITED SOURCE: Sb. Steklo i silikatn. materialy. Minsk, M-vo vyssh., sredn. i spets. prof. obrazovaniya BSSR, 1962, 132-138

TOPIC TAGS: alkali free glass, calcium glass, magnesium glass, zirconium glass, glass physical property, glass stability

TRANSLATION: The melting and manufacturing characteristics, crystallizing capacity, chemical stability, and softening temperature of 65 experimental glass compositions were investigated. Glasses containing a large amount of ZrO_2 are more stable to attack by chemical reagents. The chemical stability increases with the SiO_2 content; ZrO_2 and SiO_2 raise the softening temperature. An increase in the content of CaO and MgO above 50% leads to a marked decline in the acid resistance of the glasses, indicating structural changes in the glass. From the authors' summary.

Card 1/1 *awm*

SUB CODE: MT

ENCL: 00

ZARODSKIY, S. S.; AMONISHIN, N. V.; GULYUK, A. M.; NEMKOVICH, V. A.

"Rapid reduction heating of metallic blanks in the fluidized bed of an intermediate heat exchanger."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1968.

Inst of Heat & Mass Transfer, AS SSSR.

GUROVICH, Arnol'd Naumovich, Prinimali uchastiye: G. INBERG, - ,
inzh.; NEMKOVSKIY, A.E., inzh.; MALOMEDOV, A.M., inzh.,
retsenzent; GAL'PERIN, I.I., nauchn. red. [deceased];
KUSKOVA, A.I., red.

[Ship equipment and the internal outfitting of ships] Sudovye ustroistva i vnutrennee oborudovanie sudov. Lenin-grad, Sudostroenie, 1964. 297 p. (MIR 17:8)

YELIZAROV, N.N., inzh.; NENKOVSKIY, A.E., inzh.

Design method for estimating the height of the turbulent zone boundary
above a vessel. Sudostroenie 26 no.10:5-9 0'60. (MIRA 13:10)
(Fluid mechanics)

YELIZAROV, N.N., inzh.; NEMKOVSKIY, A.E., inzh.

Design of navigating bridges for seagoing vessels. Sudostroenie 27
no.3:5-9 Mr '61. (MIRA 14:3)

(Hulls(Naval architerture)
(Ship handling)

NEMKOVSKIY, B.B.

Effectiveness of biological purification of sewage from a hydrolysis
plant. Gig. i san. 26 no.2:69-72 F '61. (MIRA 14:10)

1. Iz Permskoy oblastnoy sanitarno-epidemiologicheskoy stantsii
(SEWAGE—PURIFICATION—BIOLOGICAL TREATMENT)

YEMKOVSEY, B.B., MICHURIN, B. A. 1981. 1-1.

Some data concerning the condition of water supply, sewers
and industrial waste water purification at enterprises of
the Western Ural Economic Region. Nauch. trudy PermNII
no.5:144-149 1981. (MIRA 1981)

VAYSMAN, Ya.I., sanitarnyy vrach; NEMKOVSKIY, B.B.

Extract of the rising water of the Kama Water Reservoir on
the quality of subterranean waters in the ~~Berezniki~~ district.
Gig. i san. 28 no.6&15-20 Je'63 (MIRA 1964)

1. Iz Permskoy oblasti noy sanitarno-epidemiologicheskoy stantsii.

ANTOSHIN, Ye.V., inzh.; NEMKOVSKIY, I.A., inzh..

Speed of travel and temperature of particles during gas spraying
of polyethylene. Trudy VNIIAvtogen no.4:115-124 '57. (MIRA 10:12)
(Metal cladding) (Polyethylene)

KOZOVSKIY, A.L., kand. tekhn. nauk; NEMKOVSKIY, I.A., inzh.; FILIMONOVA, N.I.,
inzh.

Developing the technology of preparing polyamide powders for the
flame method of applying coatings. Trudy VNIIVtegen no.5:263-266
'59. (MIRA 12:6)
(Protective coatings) (Amides)

ASINOVSKAYA, Gnesya Abramovna; ZELEKOVSKAYA, Mataliya Mikhaylovna;
KOROVIN, Andrey Ivanovich; KRAVETSKIY, G.A.; NEMKOVSKIY,
I.A.; OFITSEROV, D.M.; TESMENITSKIY, D.I.; FISHKIS, M.M.;
SHAPIRO, I.S.; GLIZMANENKO, D.L., kand. tekhn. nauk, red.;
KLIMOVICH, Yu.G., red.; DORODNOVA, L.A., tekhn. red.

[Flame metalworking processes] Gazoplanennaya obrabotka metal-
lov. [By] G.A. Asinovskaya i dr. Moskva, Proftekhizdat, 1962.
556 p. (MIRA 16:3)
(Gas welding and cutting) (Flame hardening) (Metal spraying)

NEMKOVSKIY, M.I.

Automatic knockout of the mold and mechanization of continuous
flow processes in the trimming department. Lit.proizv. no.9:19-21
S '57. (MIRA 10:10)
(Foundry machinery and supplies)

NEMKOVSKIY, M. I.

AKSMAN, N.M.; VILENSKIY, L.I.; GORBUNOV, N.G.; GUBSKIY, V.N.; GURVICH, M.D.; LATYSHEV, Yu.M.; LEVONTIN, L.I.; LIVSHITS, T.G.; LOGINOVA, M.K.; LUR'YE, D.A.; LYANDRES, G.D.; MIROSHNICHENKO, G.K.; MOGILEVSKIY, B.Ya.; NEMKOVSKIY, M.I.; ORLEANSKIY, Ya.P.; SAVITSKIY, A.N.; SIMMA, S.F.; SURKOV, G.Z.; SEMYGUL', B.P.; SHUBIN, V.P.; DONSKOY, Ye.Ye., red.isd-va; KAL'NITSKIY, R.Ya., red.isd-va; ZAMAKHOVSKIY, L.S., tekhn.red.

[Mechanisation and automation in the machinery industry] Mekhanizatsiya i avtomatizatsiya v stankostroenii. Khar'kov, Khar'kovskoe obl.isd-vo, 1958. 119 p.
(MIRA 13:2)

1. Kharkov. Institut "Giprostanok." 2. Direktor instituta "Giprostanok" (for Orleanskiy).
(Machinery industry--Technological innovations)
(Automation)

LOGINOV, Mariya Kapitonovna; LUR'YE, Dzhan Aliyevich; NEMKOVSKIY, Mikhail Il'ich; ORLEANSKIY, Yakov Pavlovich; SAVITSKIY, Aron Yakovlevich; SHUBIN, Vladimir Petrovich; MILKO, M.N., kand. tekhn. nauk, retsenzent; POLYAKOVA, D.I., red.; BYKOVSKIY, A.I., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Album of equipment for the mechanization of foundries] Al'bom sredstv mekhanizatsii liteinykh tsekhov. [By] M.K.Loginova i dr. Moskva, Mashgiz, 1962. 131 p. (MIRA 15:10)
(Foundries--Equipment and supplies)

NEMKOVSKIY, Semen Petrovich; SMIRNOV, N.G., inzh., reizenzent;
VERBITSKAYA, Ye.M., red.

[Equipment for mechanical preparation of cotton fabrics for
printing] Oborudovanie dlia mekhanicheskoi podgotovki khlop-
chatobumazhnykh tkanei k pechataniyu. Moskva, Legkaia in-
dustriia, 1965. 31 p. (MIRA 18:3)

NENKY, E.

"Information on growing the Scotch fir sapling with special emphasis on changing light conditions." p. 55.

ERDESZETTUDOMANYI KOZLEMENYEK. Erdomernoki Foiskola. Az Erdomernoki Foiskola Kozlomenyei Sopron, Hungary, 1955.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 6, June 1959
Uncl.

NEMKY, E.

"Data on the storing of snow for various kinds of seedlings in the forest." p. 99

ERDESZETTUDOMANYI KOZLEMENYEK. Erdomernoki Foiskola. Az Erdomernoki Foiskola Kozlemenyei Sopron, Hungary, 1955.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 6, June 1959
Uncl.

NEKY, B.

Some teratological and regular phenomena on woody plants. p. 3.
(AG BUDAPESZTI FOLIAKAI KÖZLEMÉNYEI, No. 2, 1950. Sopron, Hungary)

SU: Monthly List of East European Accessions (EAL) 10, Vol. 6, no. 1, Ser. 1957. Uncl.

NEMKY, E.

Heat of acorns, p. 228, AZ ERDO, (Országos Erdészeti Egyesület), Budapest,
Vol. 5, No. 6, June 1956.

SOURCE: East European Accessions List (EEAL) Library of Congress,
Vol. 5, No. 11, November 1956.

NEMKY, E.

Data on the growing of the Scotch fir sapling with special consideration of changing light conditions; a fragment of a doctor's thesis. p. 461. (MAGYAR MEZOGAZDASAG. Vol. 9, no. 4, 1956. Hungary)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, no. 6, June 1957. Uncl.

NEMKY, ERNE

HUNGARY/Forestry - Forest Biology and Typology.

K-1

Abs Jour : Ref Zhur - Biol., No 20, 1953, 91494

Author : Nemky, Ernő

Inst : -

Title : Basic Problems in the Natural Renewal of Oak (Hungarian) Oak Groves.

Orig Pub : Erdő, 1957, 6, No 11, 407-415.

Abstract : In connection with research on renewal, the dynamics of the sprouting of acorns from different oak species has been investigated. The acorns of *Quercus pubescens* germinate immediately after they have fallen, sometimes even on the tree. The acorns of *Q. petraea* sprout some days after falling. Acorns of *Q. robur* sometimes germinate only after 1-2 weeks, the acorns of *Q. cerris* and *Q. rubra* ripen during the second year and sprout only in the spring. The influence of low temperatures on the preservation of acorns at different moistures is discussed;

Card 1/2

- 7 -

TOMPA, Karoly, dr., egyetemi adjunktus; GYORFFY, Barna, dr.; NEMKY, Erno, dr.;
KOPECKY, Ferenc; TUSKO, Lasalo, dr.

Teaching forest plant improvement at the University of Forestry
and Wood Industry. Erdo 12 no.8:367-370 Ag '63.

1. Erdeszeti es Faipari Egyetem, Sopron (for Tompa).

NEMKY, Erno, dr., egyetemi tanar, a biologiai tudományok kancidatusa

Giant trees of the world. Term tud kozl 8 no.6:276-278
Je '64.

1. University of Forestry and Timber Industry, Sopron.

NEMKY, Erno, dr., egyetemi tanar, a biológiai tudományok kandidátusa;
BARABITS, Elemér, egyetemi adjunktus

Dendrologic garden of the University of Forestry and
Timber Industry. Term tud kozl 8 no.6:278-280 1964.

1. University of Forestry and Timber Industry, Sopron.

NEMKY, Erno, dr., tanazekvezeto egyetemi tanar, a biologiai tudomanyok
kandidatusa

"Willows" by Tompa and Brundl. Reviewed by Erno Nemky.
Term tud kozl 8 no.6:285 Je'64.

1. University of Forestry and Timber Industry, Sopron.

NEMKY, Erno, dr.

Most important questions of germination ecology of oak seeds
as bases for successful and natural renewal. Erdc 13 no.12
537-542 D '64.

ACC NR: AP6035826

SOURCE CODE: UR/0413/66/000/020/0035/0035

INVENTOR: Gitis, S. S.; Ivanova, V. M.; Nemleva, S. A.; Seina, Z. N.; Ivanov, A. V.

ORG: none

TITLE: Preparative method for pyromellitimide. Class 12, No. 187006

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 35

TOPIC TAGS: pyromellitimide, pyromellitic anhydride, urea, chemical synthesis

ABSTRACT: An Author Certificate has been issued for a method of preparing pyromellitimide from pyromellitic anhydride. To ensure an increased yield, the method provides for treatment of pyromellitic anhydride with urea in a boiling solvent (e.g., acetic acid), followed by the separation of the precipitate.

SUB CODE: 07/ SUBM DATE: 08Oct65/ ATD PRESS: 5104

Cord 1/1 LS

UDC: 547.557.1' '585.07

ACC NR: AP6029051

(A)

SOURCE CODE: UR/0413/66/000/014/0060/0080

INVENTORS: Kudryayev, G. I.; Tokarev, A. V.; Oitiz, S. S.; Ivanova, V. M.; Seina, Z. N.; Lyubova, T. A.; Nemlova, S. A.

ORG: none

TITLE: A method for obtaining modified polyethyleneterephthalate. Class 39, No. 183936 [Announced by All-Union Scientific Research Institute of Synthetic Fibers (Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna)]

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 80

TOPIC TAGS: ~~polymer~~ polyethylene, ~~plastic~~, chemical synthesis

ABSTRACT: This Author Certificate presents a method for obtaining a modified polyethylene terephthalate by introducing modifying ingredients in the course of its synthesis. To increase the heat resistance of the polymer and of its products, the bifunctional derivatives of pyromellitimide (for instance, N,N¹-(bis-ethoxy)pyromellitimide or N,N¹-bis-acetylpyromellitimide is used as the modifying addendum.

SUB CODE: 11/

SUBM DATE: 02Jul65

Cord 1/1

NEMLIKHER, L.Ya.

Kojevnikoff's epilepsy and tick encephalitis; in reference to "Critique of certain critics". Zh. nevropat. psikhiat., Moskva 52 no.2:29-33 Feb 52. (CIAM 21:5)

1. Professor. 2. Of the Clinic for Nervous Diseases, Khabarovsk Medical Institute.

NEMLIKHER, L. Ya.

Additional remarks on the misinterpretation of A. IA. Kozhevnikov's
theory of partial constant cerebral epilepsy; reply to Professor
L. IA. Nemlikher, G. G. Sokolianskii, V. N. Kliuchikov. Zhur. nevr. i
psikh. 53 no. 9: 147 - 149 S '53

NEMLIKHER, L.Ya., prof. (Riga)

Problem of neuroses; a lecture for physicians. Klin.med. 37 no.9:
27-32 S '59. (MIRA 12:12)
(NEUROSES)

S/081/62/000/007/028/033
B168/B101

AUTHORS: Kagan, D. F., Kazanskiy, Yu. N., Nemlikher, M. Ya.

TITLE: Metal coating of plastics by the method of evaporating in a high vacuum

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 7, 1962, 623, abstract 4P81 (Sb. "Plastmassy v mashinostr.". M., Mashgiz, 1959, 136-143)

TEXT: Methods of coating plastics with metal are detailed and the principal features of the method of evaporating metals in a vacuum are outlined. The adhesion of a metal coating to the surface of organic glass is examined and a method of determining the quality and thickness of the metal layer is set forth; the apparatus for the metal-plating of plastics is described and the electrical conductivity of the layer is given.
[Abstracter's note: Complete translation.]

Card 1/1

NEMLIKHER, M., inzh.

Bathrooms made of particle board faced with plastics. Na stroi.
Ros. no. 4:29-30 Ap '61. (MIRA 14:6)
(Bathrooms) (Plastics) (Hardboard)

NEMLIKHER, M.Ya., inzh.; YEVGENEVA, S.M., inzh.; STRASHNYKH, V.P.,
red. izd-va; KOMAROVSKAYA, L.A., tekhn. red.

[Recommendations for the manufacture of bathrooms from particle board] Rekomendatsii po proizvodstvu sanitarno-tekhnicheskikh kabin iz drevesno-struzhechnykh plit. Moskva, Gosstroizdat, 1962. 15 p. (MIRA 15:7)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut sanitarnoy tekhniki. 2. Nauchno-issledovatel'skiy institut sanitarnoy tekhniki Akademii stroitel'stva i arkhitektury SSSR (for Nemlikher, Yevgeneva).

(Bathrooms) (Hardboard)

PASHCHENKO, N.Ye.; NEMLIKHER, M.Ya.; YEVGEN'YEVA, S.M.

Bathrooms made of particle boards with polymer materials. Sbor.
trud. NIIST no.12:43-53 '62. (MIRA 16:3)
(Bathrooms) (Building materials)

NEMLIYANKO, N. YE.

"Vegetative Hybridization of Buckwheat." All-Union Order of Labor Red Banner Selection and Genetics Inst imeni T. D. Lysenko, (Odessa), 1955. (Dissertation for the Degree of Candidate of Agricultural Sciences)

SO: M-972, 20 Feb 56

NEMLYENKO, F. E.

"On the Problem of Control of Hard Smut in Connection with Iarovization of Wheat,"
Iarovizatsiia, no. 2-3, 1932, pp. 41-86. 20 In7

SC: SIRA - SI 90-53, 15 Dec. 1953

NEMLIYENKO, F. E.

"The Role of Crop Rotation in Control Measures against Loose Smut of Maize and Sorghum," Vestnik Zashchity Rastenii, no. 1-2, 1940, pp. 240-244. 421 P942

SO: SIRA - SI - 90-53, 15 Dec. 1953

2 M		FORNICATION AND PROPERITY MOES
POVIN (H. K.) & NAMLIHNO (H. K.). 'Lepus aspidus' cornu rufus. ['Black radicle' of cereal seed-grain.]—<i>Cervinus</i> <i>remanens</i> (Selection and Seed-growing), 1940, 10, pp. 30-32, 3 figs., 1940.		FORNICATION AND PROPERITY MOES
A 'black radicle' (? = black point) disease of cereals is reported		FORNICATION AND PROPERITY MOES
from the Ukraine, causing considerably reduced stands of barley and spring wheat and, in a lesser degree, of winter wheat and oats. In experiments with spring wheat there was a reduction in emergence of 27 per cent. The tips of diseased grains, round the radicle, were black or brown; the seed either failed to germinate or more often produced weak and stunted seedlings, the underground parts of which showed interrupted yellow-brownish streaks, while the roots were poorly developed. An analysis of 132 samples of cereal seed from various farms showed in some cases 40 per cent. infected grains. Barley and spring wheat with 11 to 32 per cent. infection gave 50 to 62 per cent. emergence and barley with 32 to 38 per cent. infection 75 to 84 per cent. emergence. The disease is stated to be due to a number of factors and to be caused by various micro-organisms, chiefly <i>Helminthosporium</i> <i>autium</i> and an undetermined species of <i>Alternaria</i>. In samples of diseased grain 25.5 to 94.6 per cent. were infected by <i>H. autium</i>, 5.2 to 44.1 per cent. by <i>Alternaria</i> sp., and 0.0 to 13.6 per cent. by un- identified bacteria and fungi. In grain infected by <i>H. autium</i> the blackening often expanded from the radicle to other parts of the seed.		FORNICATION AND PROPERITY MOES

which usually become somewhat shrivelled; the mycelium of the fungus permeated the tissues of the pericarp, endosperm, and the radicle, and penetrated, after emergence of the seedling, into the stem and root, but not beyond a distance of 10 cm. from the seed. In grain infected by *Alternaria* sp., the blackening was usually restricted to the area around the radicle, the seed remained unshrivelled, and the mycelium of the fungus was found only in the pericarp and very rarely in the endosperm. The external symptoms produced by the two pathogens, however, varied considerably and rendered differentiation difficult except by culturing. In trials with spring and winter wheats some variation showed only negligible infection and are considered promising for breeding work. In control experiments soaking the seed in a 0.1 per cent. solution of mercuric chloride for 5 minutes reduced infection to 2-1 per cent. and thermal disinfection (soaking for 4 hours at 35° C. and then heating for 5 minutes at 55°) to 20 per cent. Mercuric compounds are, however, considered too highly toxic for practical use and thermal disinfection is recommended. Further measures of control should include regular weeding of wild grass hosts, immediate drying of moist seeds after harvest, prompt removal of harvested cereals from the field, crop ploughing, and agrotechnical methods to ensure a vigorous development of the plants.

1ST AND 2ND COPIES										3RD AND 4TH COPIES									
PROCESSES AND PROPERTIES INDEX																			
A 77 NUMLINHO (E. K.). <i>Исследования факторов и взаимосвязей между Кислотностью. (Ecological factors and blaster smut of Maize)--- C.R. Pan-Sov. V. I. Lenin Acad. agric. Sci., Moscow, 1941. 5, pp. 30-41, 1941.</i> Metecological data collected over four years (1932 to 1935) in the Ukraine showed that in the first two years when the precipitation was greater by 100 mm., and the air and soil humidities higher by 18-5 and 5 per cent., respectively, than in the following two, the percentage of blaster smut of maize (<i>Ustilago zae: R.A.M., xvi, p. 36</i>) was much lower (8-4 to 8-6 per cent. as against 17-7 to 20-2 per cent.). Similarly, in 1934, the disease was found to be more prevalent in dry districts (16-1 per cent.) than in more humid ones (0-7 per cent.), the corresponding figures for 1933 being 9-3 and 0-3 per cent. These data are explained on the basis of an increased susceptibility of plants suffering from lack of water.																			
ASB-SLB METEOROLOGICAL LITERATURE CLASSIFICATION																			
1930-1939										1940-1949									
1950-1959										1960-1969									

of apparently healthy, well-developed plants were infected, and it is concluded, therefore, that appraisal of healthy plants by external appearance only does not offer sufficient guarantee against the presence of ring rot. Stems containing *Bact. sepedonicum*, when dried at room temperature, retained their capacity to agglutinate after 100 days of storage; pure cultures of the organism retained theirs after being dried at 60° C. for 30 minutes. This shows that the serological method of diagnosis can be made with both fresh and dried stems of the potato.

NEMLIYNKO, F. E.

"Methods of Estimating the Infestation of Corn with Smut," Selektsiya i Semyenovodstvo,
Vol. 16, no. 4, 1949, pp. 6-7. 61.9 S65

SO: SIRA - SI - 90-53, 15 Dec. 1953

NEMLIYNOC, F.E.

"Disease of Corn Cobs (Gray Rot of Cobs Caused by *Rhizopus maydis*)," Selektelina
i Semenovodstvo, vol. 17, no. 12, 1950, pp. 69-70. 61.9 Se5

SO: SIRA - SI - 90-53, 15 Dec. 1953

R4P2

Немчинов (P. E.). Исследование бактериальной болезни кукурузы. [A study of bacteriosis of Maize cobs.] Доклады академической комиссии Ленинского Академического сельскохозяйственного Научного В. И. Ленин. [Rep. Lenin Acad. agric. Sci.], 1951, 2, pp. 30-40, 1 fig., 1951.

Studies at the Ukrainian Institute of Cereal Agriculture have shown that bacteriosis of maize (C.M.I. map No. 41) in U.S.S.R. is not always caused by *Xanthomonas stewartii*. In test plantings of various varieties only young ears during the period from the beginning of milk to the beginning of wax maturity were affected. Soon after flowering some ears were partially uncovered by artificial methods and it was found that only uncovered grains became infected with the disease. The degree of infection depended on the size of the uncovered area. Insects, especially the corn-bug [*Pyrausta nubilalis*], were found to be the carriers of infection. Infected seeds have a lower rate of germination and the young plants are retarded. This is particularly noticeable at the beginning of growth. Productivity is diminished by 20 per cent. or more. Towards the end of germination a vast majority of infected seeds, both in the laboratory and in the field, become covered by moulds, most frequently *Penicillium* [cf. R.A.M., 21, p. 444, 26, p. 392] and *Fusarium* species. In the field, especially when temperature of the soil is lowered during the germination period, these fungi weaken the young off-shoots, killing a considerable number even before they reach the surface of the soil. A three-year experiment showed that bacteriosis was not carried on to the new growth from the seed, infected either naturally or artificially. Uninfected grains on infected cobs remained perfectly healthy.

Control measures recommended are the removal of the part of the ear where the grains are infected, the selection of ears well covered with sheaths, and dusting at the beginning of milk maturity with DDT.

1. NEMLIYENKO, F. Ye.; KULYK, T. A.
2. USSR (600)
4. Nigrospora Oryzae
7. Peculiarities in the pathogenesis of nigrosporiasis on corncob. Dop. AN URSR No. 1, 1953.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

1. NEMLIENKO, F. E.
2. USSR (600)
4. Maize - Diseases
7. Causative agent of bacteriosis of ear corn. Mikrobiologiya 22, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

NEMLIYENKO, Fedor Nevdekimovich.

Ukrainian Sci Res Inst of Grain Farming. Academic degree of Doctor of Agricultural Sciences, based on his defense, 10 December 1954, in the Council of the Khar'kov Order of Labor Red Banner Agricultural Inst imeni Dokuchayev, of his dissertation entitled: "Bacteriosis of Corn Cobs and the Evolution of the Parasitism of its Cause."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List No. 10, 30 Apr 55, Pyulleten' MVD SSSR, No. 15, Aug 56, Moscow, pp. 5-24, "incl. JPRS/NY-53"

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(UKRAINE—FUNGI I AGRICULTURE)

(CORN (MAIZE)—DISEASES AND PESTS)

NEMLIYENKO, Fedor Yevdokimovich, professor, doktor sel'skokhozyaystvennykh nauk; DOLINSKI, N.N., redaktor; GOR'KOVA, Z.D., tekhnicheskiy redaktor

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USSR/Plant Diseases. Diseases of Cultivated Plants.

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Author : Nemliyenko, F. Ye.; Lukashevich, A.I.

Inst : ~~_____~~

Title : Agricultural Engineering Measures Against Chick
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Orig Pub: Zashchita rast. ot vredit. i bolezney, 1957,
No 4, 31-33.

Abstract: No abstract.

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Author : Nemliyenko, F. Ye.

Inst : -

Title : Disease Control in Corn -- an Important Factor in
Increasing Yield.

Orig Pub: Kukuruzn, 1958 N 4, 56-59

Abstract: No abstract.

Card : 1/1

IZRAIL'SKIY, V.P., prof., doktor biolog.nauk; SHUSTOVA, L.N., kand.med.
 nauk; GORLENKO, M.V., doktor biolog.nauk; MURAV'YEV, V.P.;
 BERSHOVA, Ye.F., doktor biolog.nauk; SUDAKOVA, L.V., mikrobiolog;
 GRUSHEVOY, S.Ye., doktor sel'skokhoz.nauk; ~~HEMLIYENKO, P.Ye.~~
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 L.P., kand.biolog.nauk; PERSHINA, Z.G., kand.biolog.nauk; ART'YEM'YEVA,
 Z.S., mikrobiolog; NOVIKOVA, N.S., kand.biolog.nauk; OSNITSKAYA, Ye.A.,
 fitopatolog; YASHKOVA, N.V., fitopatolog-mikrobiolog; MIKZABEK'YAN,
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khoz. nauk; ZADONTSEV, A.I., akademik, zasl. deyatel' nauk URSS,
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